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The Fossil Aulisci of California.

BY J. DEBY.

It may be of interest to American microscopists to know that nearly one-third of all known species or forms of the Diatomaceous genus *Auliscus* are to be found in the fossil deposits of California. The Santa Monica and San Redondo earths are the richest localities in the world for these beautiful little forms. I add from personal observations, a list of the California known forms.

- Auliscus antiquus*, Ratt.
- A. Biddulphia*, Kitt.
- Var. *prominens*, Ratt.
- A. calatus*, Bail.
- Var. *major*.
- Var. *constricta*.
- A. compositus*, A. Sm.
- A. decoratus*, Ratt.
- Var. *affinis*, Ratt.
- A. elaboratus*, Ralfs.
- A. elegans*, Ratt.
- Var. *Californica*, A. Sm.
- Var. *Grunowii*, Ratt.
- A. eximius*, Ratt.
- A. gracillimus*, Ratt.
- A. Hardmanianus*, Grev.
- Var. *futilis*, Ratt.
- Var. *bifurcata*, Ratt.
- A. insignis*, Cleve.
- A. intestinalis*, A. S.
- A. Joynsonii*, A. S.
- A. Macraeanus*, Grev.
- A. mirabilis*, Grev.
- A. ovalis*, W. Arnott.
- A. punctatus*, Bail.
- A. pruinosus*, Bail.
- A. sculptus*, Ralfs.
- A. speciosus*, A. Sm.
- A. Stockhardtii*, Jan.=*A. racemosus*, Ralfs.
- A. subreticulatus*, Ratt.
- A. subspeciosus*, Ratt.,

besides a few undetermined and probably new forms seen by myself and by my friend, Dr. D. B. Ward, of Poughkeepsie, N. Y.

The above list comprises 31 named forms, all of which are in my collection, but out of which the Rev. Francis Wolle, in his *Diatomaceæ* of North America, only mentions 17, leaving 14 ignored. He, however, adds *A. incertus*, A. Sm. as from Santa Monica and *A. Peruvianus*, Grev. from "California," as fossil? He also mentions *A. mutabilis*, Grev. from Monterey, but no such species of Greville exists. Probably *A. mirabilis* was intended. It is seen from the above that 33 forms of *Aulisci* are at present known from the California diatomaceous deposits, which, during the earlier tertiary periods, must have been the veritable metropolis of the species of this interesting genus.

As I propose preparing a revision of the *Aulisci* in general, I should be glad to receive any additions to the above list from Californian localities, or the loan of any supposed new forms to be added to the existing ones.

31 BELSIZE AVENUE,
LONDON, N. W.

Notes on New Characeæ.

BY T. F. ALLEN.

A new species of *Nitella* from the Valley of Mexico, collected in December, by Mr. Pringle, I decide to name *Nitella formosa*. It may be described concisely as *Nitella* diarthrodactyla, homoeophylla, monoica, flabellata, gymnocarpa, closely related to *N. tenuissima*, Kütz. It has the appearance of a gigantic *tenuissima*, attaining the size of 12 to 18 inches in length and diffusely branched. It differs, however, from *tenuissima*, not only as regards its size, but in that the fruit is subterminal only. The oospore is slightly larger than *tenuissima*, in the new species averaging about .340 mm. long by .305 mm. wide, with seven striæ. The membrane of the oospore is minutely granular, while that of *tenuissima* is covered with much coarser granules or reticulations.

I have also received from Japan a new *Nitella*, which is allied to our *Nitella oligospira*, and as in our species, the oogonium is single. The terminal extremities of the enveloping cells of the oospore become contracted, leaving spaces between the cells beneath the coronula of mature specimens; the oospore is .340 by